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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/851,082	05/09/2001	Teruyasu Watabe	R2184.0079/P079-A	2774

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EXAMINER	
PSITOS, ARISTOTELIS M	
ART UNIT	PAPER NUMBER
2653	

DATE MAILED: 09/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/851,082	WATABE, TERUYASU	
	Examiner	Art Unit	
	Aristotelis M. Psitos	2653	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 May 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17 and 19-29* is/are rejected.

7)☒ Claim(s) *18 and 30* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *5/24/05*. 7/4/05
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 5/24/05 has been entered.

Information Disclosure Statement

The IDS of 5/24/05 has been reviewed and made of record, i.e. 7/11/05 are duplicates.

Claim Objections

In claim 5, ultimate line, the word " rage " should be ---- range ----. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

1. Claims 1 and 16,17 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over the acknowledged prior art to JP 09-171631 further considered with Noda et al and all further considered with JP 11-096576.

The following analysis is made.

With respect to claim 1, as acknowledged by applicant's description of the prior art JP –9-171631, such a system provides for the a laser power control system in this environment with respect to the bottom-level drive as it relates to both the peak power and the erase power.

The examiner interprets this as the apc mode (automatic power control loop), sometimes referred to as the automatic laser power control. Further as noted in the accompanying MAT (machine assisted translation) of the document – see paragraph 6, the laser drive signal is appropriately "incremented".

There is no clear identification that there is another or as claimed "special" power setting process".

Noda et al teaches in this environment a different operational consideration for lasers, see his discussion as recited in the abstract.

It would have been obvious to modify the acknowledged prior art with the above teaching from Noda et al; motivation is to include an additional laser power control loop/process to ensure proper laser power.

Furthermore, the newly cited JP 11-096576 document further teaches in this environment the ability of establishing/calculating differential efficiency (eta), which the examiner interprets as meeting the claimed "derivative efficiency".

It would have been obvious to modify the above acknowledged prior art system and Noda et al with this additional teaching, motivation is as acknowledged by the JP 11-096576 (see attached MAT).

With respect to claim 16, the claimed acc (automatic current control process) is claimed and as indicated above, the Noda et al system teaches such.

With respect to claim 17, such is considered present in the acknowledged prior art system.

With respect to claim 19, these levels are depicted in the acknowledged prior art.

2. Claims 2-6 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over the art as applied to claim 1 above, and further in view of Yokoi et al.

As noted by applicant, the base system supplies the appropriate signals for subsequent use in his laser power mode. The ability of providing a variable increment of the erase signal is considered to be present. Nevertheless, the ability of switching between various erase current sources is not clearly depicted, i.e., providing for a sample of the current signals.

Yokoi et al teaches in this environment the ability of switching between a plurality of signal sources to drive a laser accordingly –see figures 6-8, 10-17, wherein the examiner interprets the various erase signal(s) from the appropriate current source and hence shortening the tail edge – as further noted in figure 2 of Yokoi et al

It would have been obvious to modify the base system as relied upon above in paragraph 1 with the above noted switching/plural current sources taught by the Yokoi et al system so as to provide for the appropriate signal to drive the laser so as to shorten the tail edge.

With respect to the limitations of claims 3-6,and 24 such are considered met by the above combination of references, i.e., the switch – see Yokoi et al as he "switches" between his current sources.

The first and second states of claim 3 are considered to be those states requiring the increment of the amplitude, and as further recited/required for various data lengths in claims 4 and 24.

With respect to claims 5 and 6, the values of the signal level for the erase signal will alter, change – either be an increase or decrease – predicated upon the data signal length. Obviously these values must be included in a proper erase-level ----- range ---- (not rage).

3. Claims 8, 10,11 are rejected under 35 U.S.C. 103(a) as being unpatentable over the art as applied to claim 1 above, and further in view of Yokoi et al.

With respect to these claims, the space-level limitations are interpreted as the data lengths described in Yokoi et al.

It would have been obvious to modify the references as relied upon above in paragraph 1 with the additional space-level and increment such accordingly so as to properly compensate the efficiency of the laser.

The similar interpretation of the limitations of claims 10 and 11 as stated above in paragraph two are made here as well.

4. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over the art as applied to claim 8 above, and further in view of Gyo.

There is no clear depiction of "bias" currents in the above noted systems. Nevertheless, the ability of providing appropriate "bias" current sources in this environment is taught by the Gyo reference.

It would have been obvious to modify the references as stated above in paragraph 3 with the additional "bias" current sources, motivation is to use existing laser driving circuitry already established in this environment and hence save valuable resources such as design time required to re-design current driving circuits from scratch.

5. Claims 12,14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over the art as applied to claim 1 above, and further in view of Yokoi et al.

These claims are drawn to the bottom-level currents. Although the acknowledged prior art describes such –as indicated in paragraph 115 of the present application, the Yokoi et al reference describes such as "cooling pulses" (c), where the incrementing of such is depict for Cf, C or Cr in figure 11 for instance.

With respect to claims 14 and 15, the documents are relied upon and interpreted as indicated above in paragraph 3.

6. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over the art as applied to claim 12 above, and further in view of Gyo.

Gyo is relied upon for the reasons stated above in paragraph 4.

6. Claims 20 and 21are rejected under 35 U.S.C. 103(a) as being unpatentable over the art as applied to claim 16 above, and further in view of Spruit.

The use of monostable multivibrators in laser drive circuits is further taught by the Spruit system – see the description of element 12 for instance.

With respect to claim 21, the counter is considered inherently present in the control circuitry of Spruit so as to be responsive to the clock signals from the appropriate clock signal generator.

It would have been obvious to modify the base systems as relied upon in paragraph 1 with these additional teachings, motivation is to save valuable resources by using existing laser drive circuits.

7. Claims 22-24,and 25, 27-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over the art as applied to claim16 above, and further in view of Official notice.

These claims recite the ability of sampling the appropriate detected signals at first and second sampling points so as to establish/provide for the calculation of the derivative efficiency. The use of sample and hold circuitry in the electronic arts is considered old and well-known and Official notice is taken thereof.

With respect to the limitations of claims 24, 27-30, sampling predicated upon data length, the switching from the first to second erase-level increments (claim 27), increasing or decreasing a normal erase level (claims 28,29), they are considered obvious in view of the combined references, i.e., sampling is predicated upon signal length, the erase-levels are predicated upon the length of the data signal(s) as illuminated in the Yokoi et al system, while the increase/decrease thereof is also related to the length of the data pulse.

It would have been obvious to modify the references as relied upon as stated above in paragraph 1 with the additional well -known sampling capabilities of sample-hold circuits so as to yield the appropriate sampling points and perform the calculation as recited by these claims.

8. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over the art as applied to claim 25 above, and further in view of EP 0802531.

The ability of having d/a converters connected to appropriate switching devices is taught/described by the above noted EP document in this environment for the signal processing thereof, see the description of figure 10 for instance – elements 7-6 to 7-8 connected to asw elements.

It would have been obvious to modify the base system as relied upon above in paragraph 7 with the additional d/a teaching from the EP document, motivation is to use existing laser drive circuitry already present and save resources such as design time.

Allowable Subject Matter

9. Claims 18 and 30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aristotelis M. Psitos whose telephone number is (571) 272-7594. The examiner can normally be reached on M-Thursday 8 - 4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William R. Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Aristotelis M Psitos
Primary Examiner
Art Unit 2653

AMP